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**PCT**

**INTERNATIONAL PRELIMINARY EXAMINATION REPORT**  
(PCT Article 36 and Rule 70)

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| Applicant's or agent's file reference<br><b>PF020080</b>   | <b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA416) |  |
| International application No.<br><b>PCT/EP 03/50272</b>  | International filing date ( <i>day/month/year</i> )<br><b>27.06.2003</b>   | Priority date ( <i>day/month/year</i> )<br><b>28.06.2002</b> |
| International Patent Classification (IPC) or both national classification and IPC<br><b>H04N7/62</b> |  |  |
| Applicant<br><b>THOMSON LICENSING S.A. et al.</b>  |  |  |

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
- This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
- These annexes consist of a total of 3 sheets.
3. This report contains indications relating to the following items:
- I  Basis of the opinion
  - II  Priority
  - III  Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
  - IV  Lack of unity of invention
  - V  Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
  - VI  Certain documents cited
  - VII  Certain defects in the international application
  - VIII  Certain observations on the international application

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|--|--|
| Date of submission of the demand<br><b>28.01.2004</b>  | Date of completion of this report<br><b>13.09.2004</b>                 |
| Name and mailing address of the international preliminary examining authority:<br><br><br>European Patent Office<br>D-80298 Munich<br>Tel. +49 89 2399 - 0 Tx: 523656 epmu d<br>Fax: +49 89 2399 - 4465 | Authorized Officer<br><br>Zanella, C<br>Telephone No. +49 89 2399-8960 |



**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/EP 03/50272

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, Pages**

1-5, 7-30                          as originally filed  
6, 6a                              received on 16.07.2004 with letter of 16.07.2004

**Claims, Numbers**

3-25                              as originally filed  
1, 2                              received on 16.07.2004 with letter of 16.07.2004

**Drawings, Sheets**

1/5-5/5                            as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- the language of publication of the international application (under Rule 48.3(b)).
- the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- contained in the international application in written form.
- filed together with the international application in computer readable form.
- furnished subsequently to this Authority in written form.
- furnished subsequently to this Authority in computer readable form.
- The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- the description,        pages:        6
- the claims,               Nos.:        1,2
- the drawings,            sheets:

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5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).  
*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*
6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

|                               |             |      |
|-------------------------------|-------------|------|
| Novelty (N)                   | Yes: Claims | 1-25 |
|                               | No: Claims  |      |
| Inventive step (IS)           | Yes: Claims |      |
|                               | No: Claims  | 1-25 |
| Industrial applicability (IA) | Yes: Claims | 1-25 |
|                               | No: Claims  |      |

**2. Citations and explanations**

**see separate sheet**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/EP 03/50272

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

Reference is made to the following document:

D1: WO 01 60061 A (KONINKL PHILIPS ELECTRONICS NV) 16 août 2001 (2001-08-16)

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 does not involve an inventive step in the sense of Article 33(3) PCT.

The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and discloses (the references in parentheses applying to this document): a recognition unit for recognizing synchronisation signals ("signatures", see for ex. the abstract) in a audiovisual program received, and for executing action instructions in case of detection of said synchronisation signals (for example "initiate recording or continue recording beyond a preset time period", see page 5, lines 16,17).

Further, it is clear from document D1 that the scope of the disclosure is not limited to signatures within a programme to be recorded, but also signatures present in programs associated with the program to be recorded can be used by decision logic 106 (...or other segment of the input video is associated with the program to be recorded. ", see page 5, lines 10-12); an example is given by the detection of commercials preceding a program (see page 7, lines 21-24).

Document D1 therefore discloses the characterising portion of claim 1 : after detection of a commercial preceding a program to be recorded decision logic module 106 provides for a timeout before dispatching the action instruction of recording; another example of an action which undergoes a predetermined timeout a "preset time period" is also disclosed on page 5, lines 16, 17.

Remaining features of the subject-matter of claim 1 - as for example subdivision of the claimed recognition unit in some functional modules - only relate to details of implementation which are considered within the freedom of the skilled person and that thus do no justify of the existence of an inventive step.

The same reasoning applies, mutatis mutandis, to the subject-matter of the corresponding

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independent claims 12,15, 17-23 and 25 ; in this connection it is noted that also in the device disclosed by D1 recognition elements (for example logos, see page 8) and action timeout lags must be supplied to the receiver in order to determine the correct time for stopping a recording process. These claims therefore are also considered not inventive.

Under due consideration of the general knowledge of the person skilled in the art working in the field relating to pattern recognition (see for example the disclosures of US-A-5 920 477 (HOFFBERG STEVEN M ET AL) 6 juillet 1999 (1999-07-06) and US-A-4 230 990 (LERT JOHN G JR ET AL) 28 octobre 1980 (1980-10-28))

also the remaining dependent claims 2-11,13,14,16 and 24 do not appear to contain any additional features which involve an inventive step when combined with the features of any claim to which they refer and therefore do no meet the requirements of Article 33(3) PCT.

The presently claimed subject-matter relates to the field of electronics and in particular to the design of electronic devices which are then manufactured by the industry. The present claims possess thus industrial applicability.

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BT15 Rec'd PCT/PTO 28 DEC 2004

One possibility for widening the field of applications of this type of technology would consist in introducing recognition elements into audiovisual programmes, these elements being able to trigger the recognition operations at the desired moments. For example, a specific banner could be inserted  
5 during the broadcasting of a live transmission. However, such a solution would require inlay steps, that would have to be performed by the transmitting station. This is therefore an intrusive procedure, which is rather impractical in particular when the interactivity is driven by an operator who is not involved in the broadcasting process.

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< Cf. page 6a > → The present invention relates to a system and a method of synchronizing audiovisual programmes and interactive services, which may make it possible to be completely unintrusive with regard to broadcasters and operators of services, while permitting simple and reliable implementation  
15 and avoiding recourse to a programme guide. The system and the method of the invention enable applications not only to programmes known in advance, but also to transmissions broadcast live or to programmes that have not formed the subject of a processing or of a prior examination.

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The synchronization system and method of the invention apply also to other types of synchronization relating to audiovisual programmes, in particular in respect of automatic recordings of films or transmissions, or of automatic substitutions of contents of audiovisual programmes (the user being able, for example, to decide in advance a real-time replacement on  
25 screen of a certain category of programmes by another, by means of selection from among several broadcasting sources). What is more, they also relate to radio transmissions. Hereinafter, and for simplicity, including in the definition of the invention, the expression "audiovisual programme" is aimed at audio and/or video programmes.

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The subject of the invention are also units and methods for specifying and recognizing synchronization signals, usable for the

6a

Document WO-01/60061 deals with methods and apparatus for recording programs prior to or beyond a preset recording time period. In accordance with the described technique, a video signal is processed to generate one or more signatures associated with a broadcast program to be recorded. The signatures are then further processed, for example by being compared with known stored information regarding the broadcast program, so as to determine an actual start time and end time of the program.

The teaching of that document seems interesting in that it introduces some flexibility in the recognition of the exploited synchronization signals. It mentions notably solutions in which recognition is possible even when no specific synchronisation signals are introduced in broadcast signals and when no reference signal is previously stored at the receiving side. This is possible by exploiting the detection of relevant variations in the received audio and/or video signals. However, the signatures may not be always easy and practical to process, because significant detectable signals or signals variations are not necessarily available without being specifically introduced upstream, every time a synchronisation is needed.

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BT15 Rec'd PCT/PTO 28 DEC 2004  
CLAIMS (clean claims)

1. Recognition unit (2) for recognizing synchronization signals in at least one audiovisual programme (15) received, said audiovisual programme (15) comprising an audiovisual content intended to be broadcast to users and control information, said recognition unit (2) comprising :

- a reception module (21, 24) and a recording module (25), for receiving and recording in a storage space (20), recognition elements (11) making it possible to obtain at least one extracted portion of the content of said audiovisual programme (15),

- a reception module (21) for receiving at least one transmitted stream carrying said audiovisual programme (15),

- a detection module (22) for detecting said synchronization signals (11) in said audiovisual programme (15) received, by means of said recognition elements (11) stored in said storage space (20), by recognition in the content of said audiovisual programme (15) received, of said extracted portion,

- and a transmission module (23) for transmitting action instructions (12) in case of detection of said synchronization signals in said audiovisual programme (15), said instructions (12) being designed so as to trigger at least one action,

characterized in that the recognition unit (2) also comprises a module (26) for timeout before dispatch of said action instructions (12) by the transmission module (23) when said synchronization signals are detected in said audiovisual programme (15).

2. Recognition unit (2) according to Claim 1, characterized in that said reception (24) and recording (25) modules for receiving and recording said recognition elements (11) are designed so as respectively to receive and record also at least one timeout lag (13) and in that the timeout module (26) is designed to use said lag (13).

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